WHAT IS CLAIMED IS:

1.   A content searching/providing system for searching a record content from a randomly accessible memory apparatus storing a plurality of contents and for
5   providing the record content to a user, comprising:

content classification means classifying the record contents of said memory apparatus in accordance with a predetermined rule;

channel assignment means assigning a virtual channel
10   to each classification;

content arrangement means arranging the record contents classified into the same classification on the corresponding virtual channels;

user operation receiving means receiving a user
15   operation for commanding channel selection and content search on a channel; and

content providing means acquiring a record content from a selected virtual channel in response to the user operation received via said user operation receiving
20   means and providing the record content.

2.   The content searching/providing system according to claim 1, wherein:

said content arrangement means dispose the record
25   contents on the virtual channel along its time axis in accordance with their presentation sequence; and

said content providing means acquire the record content from a position which is moved along said time axis for a time period corresponding an operation amount
30   of the content search operation on said virtual channel selected by said user operation receiving means.

3.   The content searching/providing system according to claim 1, wherein:

said user operation receiving means include a first command means commanding an amount of operation in a first direction and a second command means commanding an amount of operation in a second direction;

said content providing means specifies a virtual channel in accordance with the operation amount in said first direction by said first commanding means, and specifies a record content on said virtual channel in accordance with the operation amount in said second direction by said second commanding means.

4.   The content searching/providing system according to claim 3, wherein:

said second commanding means accept a press-in operation executed by a user; and

said content providing means acquire a record content from a position that is moved along said time axis of said virtual channel for an amount corresponding to said press-in operating time executed by said second commanding means.

5.   The content searching/providing system according to claim 4, wherein:

said content providing means move said position within the same record content which is being presented if said press-in operating time by said second commanding means is less than a predetermined value, and moves said

position among the record contents if said press-in operating time is not less than the predetermined value.

6.   The content searching/providing system according to claim 1, further comprising:

receiving means receiving broadcast program contents that are being broadcasted from one or a plurality of broadcasting stations; wherein

said channel assigning means assign a real channel to a receivable broadcasting station;

said user operation receiving means accept the channel selection operation regardless of type difference between the virtual channel and the real channel; and

said content providing means provide the broadcast program content or the record content, said broadcast content being a content currently being broadcasted on the real channel that is selected in response to the user operation executed via said user operation receiving means, and said record content being a content acquired from the virtual channel that is selected in response to the user operation executed via said user operation receiving means.

7.   The content searching/providing system according to claim 6, wherein:

said user operation receiving means include a first command means commanding an amount of operation in a first direction and a second command means commanding an amount of operation in a second direction;

said content providing means specifies a virtual channel in accordance with the operation amount in said

first direction by said first commanding means, and specifies a record content on said virtual channel in accordance with the operation amount in said second direction by said second commanding means.

8. The content searching/providing system according to claim 6, wherein:

said user operation receiving means include a set of numeral keys for specifying a channel number;

said channel assignment means assign a part of available channels corresponding to broadcasting stations to the real channels, and the rest of said available channels that are not used for the real channels to the virtual channels; and

said content providing means acquire the content from the real channel or the virtual channel corresponding to the numeral key specified by said user operation receiving means.

9. The content searching/providing system according to claim 1, wherein:

said content classification means classify or filter the record contents in accordance with user preferences or profile information inputted by a user.

10. The content searching/providing system according to claim 1, wherein:

said content arrangement means determine said order of content presentation or a priority of the record content on the virtual channel in accordance with user preferences or profile information inputted by a user.

11.   The content searching/providing system according to claim 1, wherein:

said memory apparatus store multimedia contents including multimedia data and a replay application program for replaying said multimedia data.

12.   The content searching/providing system according to claim 1, wherein:

said memory apparatus store multimedia contents including multimedia data and a replay application program for replaying said multimedia data in addition to picture contents;

said channel assignment means assign the virtual channel to each replay application program;

said content arrangement means dispose the multimedia data on the virtual channel, to which the replay application program is assigned, in replay sequence by the replay application program; and

said content providing means activate the replay application program and replay the multimedia data in response to the selection of the multimedia data on the virtual channel to which the replay application program is assigned.

13.   The content searching/providing system according to claim 1, wherein:

said memory apparatus store multimedia contents including multimedia data, meta-data, and a replay application program for replaying said multimedia data and said meta-data;

said channel assignment means assign the virtual channel to each replay application program;

said content arrangement means dispose pairs of multimedia data and meta-data on the virtual channel, to

5 which the replay application program is assigned, in replay sequence by the replay application program;

said content providing means activate the replay application program and replay the pairs of multimedia data and meta-data in response to the selection of the

10 pair of multimedia data and meta-data on the virtual channel to which the replay application program is assigned.

14. The content searching/providing system according to

15 claim 13, wherein:

said content providing means start replaying of pre-recorded default multimedia data and meta-data without waiting further input in response to the selection of the multimedia content on the virtual channel to which the

20 replay application program is assigned.

15. The content searching/providing system according to claim 1, wherein:

said content providing means re-start the content

25 presentation from a point of time that is moved for an amount of actual time passed in the virtual channel when the virtual channel is re-selected after switching to the other channel.

30 16. The content searching/providing system according to claim 1, wherein:

said content providing means re-start the content presentation from a point of time wherein the switching to the other channel was made when the virtual channel is re-selected after switching to the other channel.

17. The content searching/providing system according to claim 1, wherein:

said content providing means display a replay start time and a replaying time and/or a mark indicating a replaying position of each program on the time axis of each virtual channel.

18. A content searching/providing method for searching a record content from a randomly accessible memory apparatus storing a plurality of contents and for providing the record content to a user, comprising:

content classification step classifying the record contents of said memory apparatus in accordance with a predetermined rule;

channel assignment step assigning a virtual channel to each classification;

content arrangement step arranging the record contents classified into the same classification on the corresponding virtual channels;

user operation receiving step receiving a user operation for commanding channel selection and content search on a channel; and

content providing step acquiring a record content from a selected virtual channel in response to the user operation received in said user operation receiving step and providing the record content.

19. The content searching/providing method according to claim 18, wherein:

in said content arrangement step, the record

5 contents are disposed on the virtual channel along its time axis in accordance with an order of their presentation sequence; and

in said content providing step, the record content is acquired from a position which is moved along said

10 time axis for a time period corresponding an operation amount of the content search operation on said virtual channel selected in said user operation receiving step.

20. The content searching/providing method according to

15 claim 18, wherein:

said user operation receiving step include a first command step commanding an amount of operation in a first direction and a second command step commanding an amount of operation in a second direction; and

20 in said content providing step, a virtual channel is specified in accordance with the operation amount in said first direction in said first commanding step, and a record content is specified on said virtual channel in accordance with the operation amount in said second

25 direction in said second commanding step.

21. The content searching/providing method according to claim 20, wherein:

in said second commanding step, a press-in operation

30 executed by a user is accepted; and

in said content providing step, a record content is acquired from a position that is moved along said time axis of said virtual channel for an amount corresponding to said press-in operating time executed in said second
5   commanding step.

22.   The content searching/providing method according to claim 21, wherein:

in said content providing step, said position is
10   moved within the same record content which is being presented if said press-in operating time in said second commanding step is less than a predetermined value, and said position is moved among the record contents if said press-in operating time is not less than the
15   predetermined value.

23.   The content searching/providing method according to claim 18, further comprising:

receiving step receiving broadcast program contents
20   that are being broadcasted from one or a plurality of broadcasting stations; wherein

in said channel assigning step, a real channel is assigned to a receivable broadcasting station;

in said user operation receiving step, the channel
25   selection operation is accepted regardless of type difference between the virtual channel and the real channel; and

in said content providing step, the broadcast program content or the record content is provided, said
30   broadcast content being a content currently being broadcasted on the real channel that is selected in

response to the user operation executed in said user operation receiving step, and said record content being a content acquired from the virtual channel that is selected in response to the user operation executed in

5　said user operation receiving step.

24.　The content searching/providing method according to claim 23, wherein:

said user operation receiving step include a first

10　command step commanding an amount of operation in a first direction and a second command step commanding an amount of operation in a second direction;

in said content providing step, a virtual channel is specified in accordance with the operation amount in said

15　first direction determined in said first commanding step, and a record content on said virtual channel is specified in accordance with the operation amount in said second direction determined in said second commanding step.

20　25.　The content searching/providing method according to claim 23, wherein:

said user operation receiving step include accepting a user operation to specify a channel number via a set of numeral keys;

25　in said channel assignment step, a part of available channels corresponding to broadcasting stations is assigned to the real channels, and the rest of said available channels that are not used for the real channels is assigned to the virtual channels; and

30　in said content providing step, the content is acquired from the real channel or the virtual channel

corresponding to the numeral key specified in said user operation receiving step.

26. The content searching/providing method according to claim 18, wherein:

in said content classification step, the record contents are classified or filtered in accordance with user preferences or profile information inputted by a user.

27. The content searching/providing method according to claim 18, wherein:

in said content arrangement step, said order of content presentation or a priority of the record content on the virtual channel is determined in accordance with user preferences or profile information inputted by a user.

28. The content searching/providing method according to claim 18, wherein:

said memory apparatus store multimedia contents including multimedia data and a replay application program for replaying said multimedia data.

29. The content searching/providing method according to claim 18, wherein:

said memory apparatus store multimedia contents including multimedia data and a replay application program for replaying said multimedia data in addition to picture contents;

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in said channel assignment step, the virtual channel is assigned to each replay application program;

in said content arrangement step, the multimedia data are disposed on the virtual channel, to which the replay application program is assigned, in replay sequence by the replay application program; and

in said content providing step, the replay application program is activated and the multimedia data is replayed in response to the selection of the multimedia data on the virtual channel to which the replay application program is assigned.

30. The content searching/providing method according to claim 18, wherein:

said memory apparatus store multimedia contents including multimedia data, meta-data, and a replay application program for replaying said multimedia data and said meta-data;

in said channel assignment step, the virtual channel is assigned to each replay application program;

in said content arrangement step, pairs of multimedia data and meta-data are disposed on the virtual channel, to which the replay application program is assigned, in replay sequence by the replay application program;

in said content providing step, the replay application program is activated, and the pair of multimedia data and meta-data is replayed in response to the selection of the pair of multimedia data and meta-data on the virtual channel to which the replay application program is assigned.

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31. The content searching/providing method according to claim 30, wherein:

in said content providing step, replaying of pre-recorded default multimedia data and meta-data is started without waiting further input in response to the selection of the multimedia content on the virtual channel to which the replay application program is assigned.

32. The content searching/providing method according to claim 18, wherein:

in said content providing step, the content presentation is re-started from a point of time that is moved for an amount of actual time passed in the virtual channel when the virtual channel is re-selected after switching to the other channel.

33. The content searching/providing method according to claim 18, wherein:

in said content providing step, the content presentation is re-started from a point of time wherein the switching to the other channel was made when the virtual channel is re-selected after switching to the other channel.

34. The content searching/providing method according to claim 18, wherein:

in said content providing step, a replay start time and a replaying time and/or a mark indicating a replaying

position of each program on the time axis of each virtual channel are displayed.

35.   A software memory medium storing computer readable
5   software described so as to control a computer system to execute a content searching/providing processing for searching a record content from a randomly accessible memory apparatus storing a plurality of contents and for providing the record content to a user, said software
10   comprising:

content classification step classifying the record contents of said memory apparatus in accordance with a predetermined rule;

channel assignment step assigning a virtual channel
15   to each classification;

content arrangement step arranging the record contents classified into the same classification on the corresponding virtual channels;

user operation receiving step receiving a user
20   operation for commanding channel selection and content search on a channel; and

content providing step acquiring a record content from a selected virtual channel in response to the user operation received in said user operation receiving step
25   and providing the record content.

36.   The software memory medium according to claim 35, wherein:

in said content arrangement step, the record
30   contents are disposed on the virtual channel along its

time axis in accordance with an order of their presentation sequence; and

in said content providing step, the record content is acquired from a position which is moved along said

5   time axis for a time period corresponding an operation amount of the content search operation on said virtual channel selected in said user operation receiving step.

37.   The software memory medium according to claim 35,

10   wherein:

said user operation receiving step include a first command step commanding an amount of operation in a first direction and a second command step commanding an amount of operation in a second direction; and

15   in said content providing step, a virtual channel is specified in accordance with the operation amount in said first direction in said first commanding step, and a record content is specified on said virtual channel in accordance with the operation amount in said second

20   direction in said second commanding step.

38.   The software memory medium according to claim 35, further comprising:

receiving step receiving broadcast program contents

25   that are being broadcasted from one or a plurality of broadcasting stations; wherein

in said channel assigning step, a real channel is assigned to a receivable broadcasting station;

in said user operation receiving step, the channel

30   selection operation is accepted regardless of type

difference between the virtual channel and the real channel; and

in said content providing step, the broadcast program content or the record content is provided, said broadcast content being a content currently being broadcasted on the real channel that is selected in response to the user operation executed in said user operation receiving step, and said record content being a content acquired from the virtual channel that is selected in response to the user operation executed in said user operation receiving step.

39. The software memory medium according to claim 38, wherein:

said user operation receiving step include accepting a user operation to specify a channel number via a set of numeral keys;

in said channel assignment step, a part of available channels corresponding to broadcasting stations is assigned to the real channels, and the rest of said available channels that are not used for the real channels is assigned to the virtual channels; and

in said content providing step, the content is acquired from the real channel or the virtual channel corresponding to the numeral key specified in said user operation receiving step.

40. The software memory medium to claim 35, wherein:

said memory apparatus store multimedia contents including multimedia data and a replay application

program for replaying said multimedia data in addition to picture contents;

in said channel assignment step, the virtual channel is assigned to each replay application program;

5   in said content arrangement step, the multimedia data are disposed on the virtual channel, to which the replay application program is assigned, in replay sequence by the replay application program; and

in said content providing step, the replay
10   application program is activated and the multimedia data is replayed in response to the selection of the multimedia data on the virtual channel to which the replay application program is assigned.

15   41.   The software memory medium according to claim 35, wherein:

said memory apparatus store multimedia contents including multimedia data, meta-data, and a replay application program for replaying said multimedia data
20   and said meta-data;

in said channel assignment step, the virtual channel is assigned to each replay application program;

in said content arrangement step, pairs of multimedia data and meta-data are disposed on the virtual
25   channel, to which the replay application program is assigned, in replay sequence by the replay application program;

in said content providing step, the replay application program is activated, and the pair of
30   multimedia data and meta-data is replayed in response to the selection of the pair of multimedia data and meta-

data on the virtual channel to which the replay application program is assigned.

42.   A computer readable program to control a computer system to execute a content searching/providing processing for searching a record content from a randomly accessible memory apparatus storing a plurality of contents and for providing the record content to a user, said program comprising:

content classification step classifying the record contents of said memory apparatus in accordance with a predetermined rule;

channel assignment step assigning a virtual channel to each classification;

content arrangement step arranging the record contents classified into the same classification on the corresponding virtual channels;

user operation receiving step receiving a user operation for commanding channel selection and content search on a channel; and

content providing step acquiring a record content from a selected virtual channel in response to the user operation received in said user operation receiving step and providing the record content.